



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,727	08/17/2006	Ulrich Riegel	29827/42263	9526

4743 7590 11/17/2010
MARSHALL, GERSTEIN & BORUN LLP
233 SOUTH WACKER DRIVE
6300 WILLIS TOWER
CHICAGO, IL 60606-6357

EXAMINER

LEONARD, MICHAEL L

ART UNIT	PAPER NUMBER
----------	--------------

1763

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/17/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mgbdoCKET@marshallip.com

CONTINUATION SHEET

The applicants' main argument is that there are not teachings or suggestions that would have led a person skilled in the art to substitute a dendritic polymer for a polyamine of the '893 patent using the dendritic polymers disclosed by the '062 publication.

Firstly, the '062 discloses a modified dendritic polymer that is both sufficiently hydrophilic and ionizable to maintain dispersibility and electrostatic repulsion and hydrophobic in nature (Please see 0051 of '062). As such substituting one hydrophilic polymer for another is still prima facie obvious to a person of ordinary skill in the art.

Secondly, the primary reference ('893) discloses the addition of a non-water soluble calcium phosphate material or hydrophobic material. Abuelyaman discloses numerous reasons to include the hydrophobic segments of the dendrimer in order to interact with the hydrophobic particle surfaces in aqueous dispersion systems (See 0033). As such, the amphiphilic dendrimer of Abuelyaman would not only provide the necessary hydrophilic character of the Wada ('893) reference, but would also contribute to a better dispersion of the calcium phosphate material of the Wada reference because of the hydrophobic nature of the dendritic polymer as evidenced by the inclusion of the modified dendrimer by including some hydrocarbon hydrophobic moieties as disclosed by Abuelyaman (0050-0051).

Art Unit: 1763

Thirdly, it would have been obvious to substitute the linear polymer of Wada for the dendritic polymer of Abuelyaman because using dendritic polymers is helpful to prevent agglomeration of said particle when the system is exposed to water.

With regards to substituting modified polyol dendrimers for the linear polyamines of Wada, the examiner would first like to point the applicants to paragraph 0041 of Abuelyaman that discloses suitable dendrons, such as the amino terminated dendrons presented by Tomalia. As such, the substitution of amino-terminated dendrons for the linear amino terminated polymers is prima facie obvious because both reference relate to amino-terminated polymers and Abuelyaman discloses reason to substitute the dendritic polymers for the linear polymers as discussed above.

Also, the dendritic polymers of Abuelyaman are not 100% modified (See 0046-0054) and as such the primary amino groups disclosed by Tomalia would still be present and the claims do not suggest that the systems are unmodified as the applicants' have suggested. Therefore, the inclusion of ionizable and hydrophobic groups as disclosed by Abuelyaman is not outside the scope of the claims as suggested by the applicants.

In response to claim 7, the two basic parameters used to select the desired type of hollow spheres are still viewed as result effective variables (See U.S. Patent No. 5,994,440 Example 1 as evidence) and the examiner maintains that one of ordinary skill in the art would understand the relationship between both parameters, i.e. achieving the desired density and mechanical strength.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Milton I. Cano/
Supervisory Patent Examiner, Art Unit 1763

/MICHAEL LEONARD/
Examiner, Art Unit 1763